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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/668,415

09/23/2003

Ronald S. Cok

86741SHS

2020

7590

07/20/2006

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EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/668,415

Applicant(s)

COK ET AL.

Examiner

Dung (Michael) T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 35-38, 42, 43, 45 and 46 is/are pending in the application.
- 4a) Of the above claim(s) 39-41, 44 and 47-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35-38, 42, 43, 45 and 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of Species II (claims 35-38, 42-43, and 45-46) in the reply filed on 05/10/06 is acknowledged.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 35-36, 39, 42, and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Cox et al. (6055262).

With respect to claim 35 and 46, Fig.1 discloses an asymmetric light emitting structure (VCSEL) for producing polarized light (col.11, lines 28-29), comprising:

a) an asymmetric geometric element that includes a light emitting layer 22 responsive to light from an excitation layer 28 (contact layer) for producing the polarized light;

b) wherein the asymmetric geometric element has a first dimension different from a second orthogonal dimension in the plane orthogonal to the light emitting layer (side and flat surfaces of light emitting layer 22);

c) wherein the light emitting layer includes a plurality of light emitting species (Al, Ga, and As are different species) having different and random orientations with respect to each other (col.6, 1.2-5);

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and d) means for excitation of the excitation layer (col.6, l.14-18).

With respect to claims 36 and 38, col.6, l.2-5 discloses the light emitting layer 22 comprises inorganic materials from compound groups II-V.

With respect to claim 42, col.11, l.23-25 discloses a grating.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al. (6055262) in view of Spoonhower et al. (2004/0190484). Cox et al. disclose all limitations of the claim except for the organic light emitting materials consisting polymer.

Spoonhower et al. teach the organic light emitting materials consisting polymer (para.0004).

it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Cox et al. what is taught by Spoonhower et al. because organic lasers are inexpensive to manufacture and able to have larger gain bandwidth in comparison with inorganic lasers (para.0004).

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Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al. (6055262) in view of Amos et al. (67853200). Cox et al. disclose all limitations of the claim except for the grating improves surface plasmon light output coupling.

Amos et al. teach the grating improves surface plasmon light output coupling (col.4, l.4-33).

it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Cox et al. what is taught by Amos et al. to generate the light polarization (col.4, l.4-33).

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al. (6055262) in view of El-Bahar (2004/0179566). Cox et al. disclose all limitations of the claim except for the white light.

El-Bahar teaches the light emitting layer emits white light (para.0006).

it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Cox et al. what is taught by El-Bahar to alternate the output light color from the VCSEL structure (para.0006).

### Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung (Michael) T Nguyen whose telephone number is (571) 272-1949. The examiner can normally be reached on 8:30 - 17:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

Michael 

Michael Dung Nguyen

07/17/06